WHAT IS CLAIMED IS;

1. An IP connection communication system for establishing communication between each of IP connection terminals 3A - 3D, in which an IP connection terminal (3A - 3D) is assigned with a global IP address (G) by a provider (5A - 5D) on every connection to an internet (2) as a receiving terminal, the system comprising;

a user registration means (M_3) for registration of machine authentication data (N_A - N_D) inherent to the IP connection terminal (3A - 3D) owned by a user and a calling code (Y_A - Y_D) correspondingly to a directory service server (4) connected to the internet (2),

a waiting registration request means (M_1) for sending a waiting request packet Pw comprising a machine authentication data (N_A - N_D) and a global IP address (G_A - G_D) assigned by the provided (5A - 5D) from the CP connection terminal (3A - 3D) to the directory service server (4) when the IP connection terminal (3A - 3D) as the receiving terminal is connected to the internet,

a waiting registration means (M_4) for reading out the machine authentication data (N_A - N_D) and the global IP address (G_A - G_D) from the packet (Pw) when the directory server (4) receives the waiting request packet (Pw) from the IP connection terminal (3A - 3D) and registering the global

IP address (G_A - G_D) as the current connection address in a predetermined memory area corresponding to the machine authentication data (N_A - N_D) and the calling code (Y_A - Y_D) thereof,

a destination address request means (M_2) for sending a sending request packet (Ps) demanding for the notification of a global IP address (G_B) corresponding to the calling code (Y_B) of the receiving IP connection terminal (3B),

an IP address notification means (M_5) for sending back the global IP address (G_B) corresponding to the calling code (Y_B) of the receiving IP connection terminal (3B) recorded in the packet Ps to the sending IP connection terminal (3A) when the directory service server (4) receives the sending request packet Ps from the IP connection terminal (3A), and

a connection request means (M_2) for sending the connection request packet to the global IP address (G_B) from the sending IP connection terminal (3A) in accordance with TCP/IP when a global IP address (G_B) corresponding to the calling code (Y_B) on the receiving side is sent back.

2. An IP connection communication system for establishing communication between each of IP connection terminals 3A - 3D, in which an IP connection terminal (3A - 3D) is assigned with a global IP address (G) by a provider (5A - 5D) on every connection to an internet (2) as a receiving terminal,

the system comprising;

a user registration means (M_3) for registration of machine authentication data (N_A - N_D) inherent to the IP connection terminal (3A - 3D) owned by a user and a calling code (Y_A - Y_D) correspondingly to a directory service server (4) connected to the internet (2),

a waiting registration means (M_4) for reading the machine authentication data (N_A - N_D) and the global IP address (G_A - G_D) from a packet Pw upon receiving a waiting request packet (Pw) comprising the machine authentication data (N_A - N_D) and the global data assigned by the provider from the receiving IP connection terminal (3A - 3D), and registering the global IP address (G_A - G_D) as the current connection address in a predetermined memory area corresponding to the machine authentication data (N_A - N_D) and the calling code (Y_A - Y_D) thereof, and

an IP address notification means (M_5) for sending back the global IP address (G_B) corresponding to the calling code (Y_B) of the receiving IP connection terminal (3B) recorded in the packet Ps to the sending IP connection terminal (3A) when the directory service server (4) receives the sending request packet Ps from the IP connection terminal (3A).

3. An IP connection communication system as defined in claim 1 or 2, wherein a third layer data of the waiting

request packet (Pw) and the sending request packet (Ps) contains a customer identification data KID for specifying a user and a machine identification data MID for specifying the IP connection terminal (3A - 3D) thereof as the machine authentication data N_A - N_D, and

the waiting registration means (M_4) and the IP address notification means (M_5) of the directory service server (4) are executed when the machine authentication data (N_A - N_D) agrees with a previously registered user's machine authentication data (N_A - N_D).

4. An IP connection communication system as defined in claim 3, wherein

a LAN card (7) connected in a wireless fashion with each of wireless LAN access points 6A to 6D connected to the internet is attached to each IP connection terminal (3A - 3D) and

an MAC address (DM) encrypted under a predetermined rule or the MAC address (DM) per se of the LAN card (7) is contained in the machine identification data (MID).

5. An IP connection terminal for establishing communication with other IP connection terminal (3B - 3D) assigned with a global IP address (G_B - G_D) by a provider (5B - 5D) on every connection to an internet (2) in accordance

with TCP/IP, the terminal comprising;

a waiting registration request means (M_1) for sending a waiting request packet (Pw) comprising the authentication data (N_A) and the global IP address (G_A) assigned by the provider (5A) to a directory service server (4) in which the calling code (Y_A) corresponding to the machine authentication data (N_A) are previously stored and demanding for registration of the global IP address (G_A) corresponding to the machine authentication data (N_A) and the calling data (Y_A) as the current connection address and

a calling means (M_2) for calling other IP connection terminal (3B - 3D) in which the calling means (M_2) comprises;

a calling code input means (M_{21}) for inputting a calling code (Y_B - Y_D) of other IP connection terminal (3B - 3D),

a destination address request means (M_{22}) for sending a sending request packet (Ps) demanding for the notification of the global IP address (G_B - G_D) corresponding to the calling code (Y_B - Y_D) inputted by the calling code input means (M_{21}) to the directory service server (4),

a connection request means for sending a connection request packet (Pc) to the global IP address (GB - GD) in accordance with TPC/IP when the global IP address (GB - GD) as the destination of other IP connection terminal (3B - 3D) is sent back from the directory service server (4) in

accordance with the demand for the sending request packet (Ps).

6. An IP connection terminal for establishing communication with other IP connection terminal (3B - 3D) assigned with a global IP address (G_B - G_D) by a provider (5B - 5D) on every connection to an internet (2) in accordance with TCP/IP, the terminal comprising;

a calling code input means (M_{21}) for inputting a calling code (Y_B - Y_D) of other IP connection terminal (3B - 3D),

a destination address request means (M_{22}) for sending a sending request packet (Ps) demanding for the notification of a global IP address (G_B - G_D) corresponding to the calling code (Y_B - Y_D) inputted by the calling code input means (M_{21}) to the directory service server (4), and

a connection request means for sending a connection request packet (Pc) to the global IP address (G_B - G_D) in accordance with TPC/IP when the global IP address (G_B - G_D) as the connection address of other IP connection terminal (3B - 3D) is sent back from the directory service server (4) in accordance with the demand for the sending request packet (Ps).

7. An IP connection terminal assigned with a global IP

address (G_A - G_D) by a provider (5A - 5D) on every connection to a internet (2) upon communication by way of the internet (2) in accordance with TCP/IP, the terminal comprising

a waiting registration request means (M_1) for sending a waiting request packet (Pw) comprising a machine authentication data (N_A - N_D) and a global IP address (G_A - G_D) assigned by a provider (5A - 5D) to a directory service server (4) in which a calling code (Y_A - Y_D) corresponding to the machine authentication data (N_A - N_D) is previously registered upon connection to the internet (2) and demanding for the registration of the global IP address (G_A - G_D) corresponding to the machine authentication data (N_A - N_D) and calling data (Y_A - Y_D) as current connection address.

8. An IP connection terminal as defined in claim 5, 6 or 7, wherein

a LAN card (7) connected in a wireless to a wireless LAN access point (6A - 6D) is connected to the internet (2),

the third layer data of the waiting request packet Pw and the sending request packet Ps contains the customer identification data (KID) for specifying the user and a machine identification data (MID) for specifying the IP connection terminal thereof as the machine authentication data (NA -ND), and the machine identification data (MID) contains an MAC address DA encrypted under a predetermined

rule from MAC address (MD) or the MAC address (MD) per se of the LAN card (7).